UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,555	12/20/2001	Linda J. Rankin	42390.P12340	4689

8791   7590   12/13/2006

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER
DANG, KHANH

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/029,555	RANKIN ET AL.
	Examiner	Art Unit	
	Khanh Dang	2111	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _16 October 2006_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1, 3-5, 17, 20-22, 27 AND 28_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This Application, assigned to and examined by Ex. King, is now assigned

to Ex. Dang. Any future contact should be directed to Ex. Khanh Dang whose

information is provided at the end of this Office Action.

Since the Applicants did not amend the claims, the previous Rejections

issued by Ex. King, are reproduced below:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 17, and 20 are rejected under 35 U.S.C. 102(b) as being

anticipated by Amini et al. (U.S. Patent No. 5,542,055).

Referring to claim 1: Amini discloses a multi-node computer system (figure 7,

multiple levels of PCI bridges, figures 1A and 1C, multiple PCI devices under one

bridge). Amini discloses a mechanism creating a map of a multiple bus network. Amini

discloses that in order for the CPU to communicate with a particular peripheral device in

a multiple bus network, it must be able to first locate the correct bus where the particular

peripheral device is connected, then to locate the correct peripheral device on that bus

(column 1, lines 58-63). Amini discloses a bus manager (CPU executes the programs in figures 5 and 6, column 13, last paragraph) to map the device information to the physical address in automatic response to a configuration event causing a change in the physical address (column 7, lines 48-56, each device's configuration register provides the data used for configuration; column 13, lines 51-65, a preliminary map is used in response to any changes in physical configuration). Amini discloses that the bus manager queries the bus devices (figure 5A, recursive routines from steps 256-266 and 276-282, figure 6, program 300, column 20, lines 16-18) for creating the map; Amini further discloses creating and accessing the map in one of the devices (system memory, column 20, lines 14-21).

Amini's querying each bus device/node for creating the map is the claimed determining node ID information. Amini's creation of the map is the claimed storing node ID information. Amini's recursive routine for query each devices is the claimed retrieving the third node's ID information from the second node. Hence, claim is anticipated by Amini.

Referring to claim 3: Amini discloses that each PCI bridge has the configuration space for the attached device (figures 2A-B). The configuration space is the claimed storage space storing the identifying information.

Referring to claim 4: Amini's recursive routine for query each devices is the claimed retrieving the third node's ID information from the second node.

Referring to claim 5: Claim is rejected with the same rationale as for the claim 3.

Referring to claims 17 and 20: Claim is rejected with the same rationale as for

the claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the combined teachings of the Amini and designer's choice.

Referring to claim 21-22: Although Amini does not disclose the multi-node

computer as a server or a workstation in claims 21-22, such limitation are merely a

matter of design choice and would have been obvious. The prior art teaches a

recursive query for initializing any node/device in the computer system. The limitations

in claims 21-22 do not define a patentably distinct invention over that in prior arts since

both the invention as a whole and prior art are directed to a node/device initialization

with recursive routines. The particular purpose of the computer is inconsequential for

the invention as a whole and presents no new or unexpected results, so long as all

attached nodes/devices are initialized. Therefore, to have the computer functioning as

a server or a workstation as claimed in claims 21-22 would have been a matter of

obvious design choice to one of ordinary skill in the computer art. Furthermore, data

sharing among computers is a common practice and well known in the computer art;

any computer accesses other computer's data is a workstation, and any computer

allows other computer to access is a server.

Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the combined teachings of Wang et al. (U.S. Patent No. 6,466,825) and the Amini.

Referring to claim 27: Wang discloses a multi-processor system (figure 2). Wang

discloses a CPU interface unite (figure 2, structure 210) for supporting multiple CPUs.

Wang's CPU interface is the claimed scalable node controller. Wang discloses a flow

control unit (figure 2, structure 220) for control the data flow between the scalable nodes

and bridges; Wang's flow control unit is the claimed multi-port switch. Wang discloses

bridges for connecting peripheral devices/nodes; Wang's bridges are the claimed I/O

hub controllers. Wang does not disclose the claimed initialization process.

Amini discloses a multi-node computer system (figure 7, multiple levels of PCI

bridges, figures 1A and 1C, multiple PCI devices under one bridge). Amini discloses a

mechanism creating a map of a multiple bus network. Amini discloses that in order for

the CPU to communicate with a particular peripheral device in a multiple bus network, it

must be able to first locate the correct bus where the particular peripheral device is

connected, then to locate the correct peripheral device on that bus (column 1, lines 58-

63). Amini discloses a bus manager (CPU executes the programs in figures 5 and 6,

column 13, last paragraph) to map the device information to the physical address in

automatic response to a configuration event causing a change in the physical address

(column 7, lines 48-56, each device's configuration register provides the data used for

configuration; column 13, lines 51-65, a preliminary map is used in response to any

changes in physical configuration). Amini discloses that the bus manager queries the

bus devices (figure 5A, recursive routines from steps 256-266 and 276-282, figure 6,

program 300, column 20, lines 16-18) for creating the map; Amini further discloses

creating and accessing the map in one of the devices (system memory, column 20,

lines 14-21).

Amini's querying each bus device/node for creating the map is the claimed

determining node ID information. Amini's creation of the map is the claimed storing

node ID information. Amini's recursive routine for query each devices is the claimed

retrieving the third node's ID information from the second node. Hence, claim is

anticipated by Amini.

Hence, it would have been obvious to one having ordinary skill in the computer

art at the time Applicant made the invention to adapt the teachings of Amini to modify

Wang because Amini teaches one to properly create an address map for locating any

particular device/node in the system during data transmission.

Referring to claim 28: Claim is rejected with the same rationale as for the claim 3.

Response to Arguments

Applicants' arguments filed 10/16/2006 have been fully considered but they are

not persuasive.

At the outset, Applicants are reminded that claims subject to examination will be

given their broadest reasonable interpretation consistent with the specification. *In re*

Morris, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). As a matter of fact, the "examiner has

the duty of police claim language by giving it the broadest reasonable interpretation."

Springs Window Fashions LP v. Novo Industries, L.P., 65 USPQ2d 1862, 1830, (Fed.

Cir. 2003). Applicants are also reminded that claimed subject matter not the

specification, is the measure of the invention. Disclosure contained in the specification

cannot be read into the claims for the purpose of avoiding the prior art. *In re Sporck,* 55

CCPA 743, 386 F.2d, 155 USPQ 687 (1986).

With this in mind, the discussion will focus on how the terms and relationships

thereof in the claims are met by the references. Response to any limitations that are not

in the claims or any arguments that are irrelevant and/or do not relate to any specific

claim language will not be warranted.
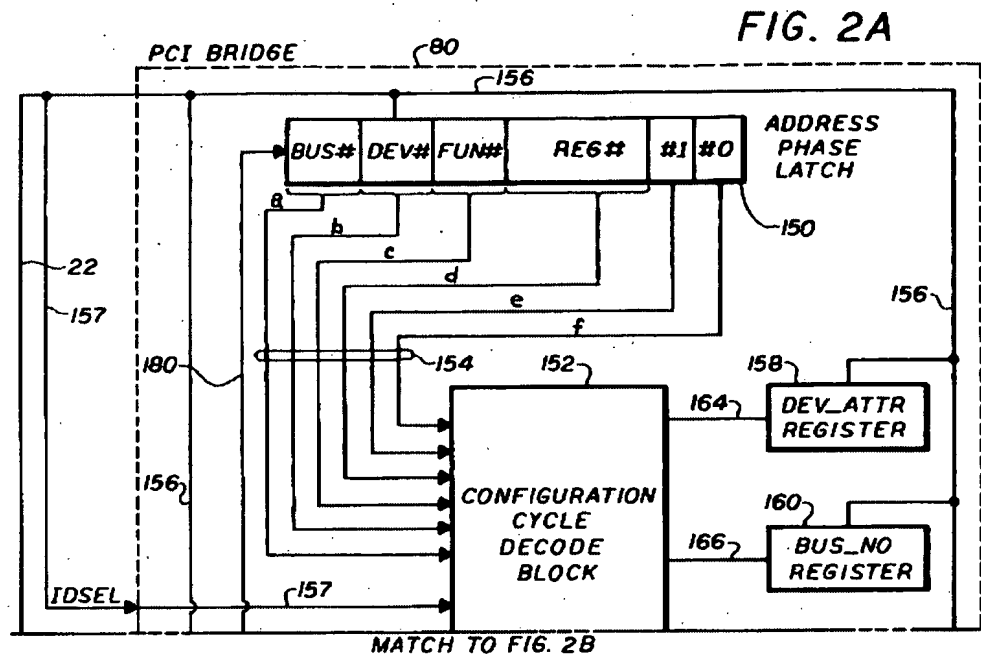

The 102 Rejection:

With regard to claim 1, Applicants argue that "The Office action directs the

Applicant's attention to the detailed description of Amini and states that 'Amini's

creation of the map is the claimed storing node ID information.' The Applicant
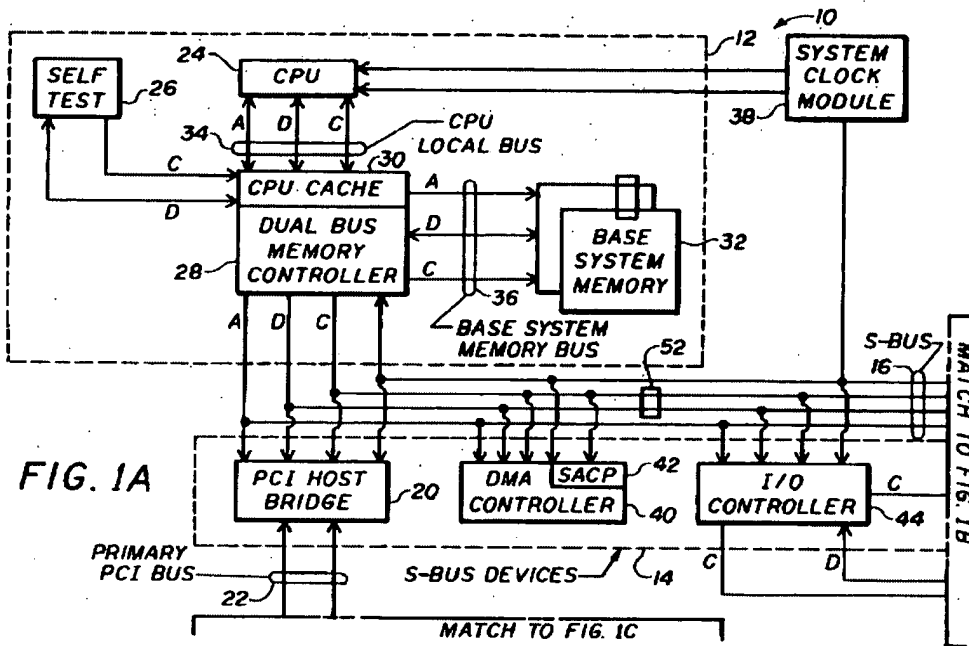
respectfully disagrees. The detailed description of Amini is directed to a "PCI bus architecture...When the CPU runs the configuration software it must access and **read or write to the configuration space of each device or bridge** to configure the system and create the address map." (emphasis added). The terms 'each device or bridge" as used in Amini, is understood to reference accessing the addressing information for each PCI device separately on each device. See, e.g., column 7, line 61-column 8, line 16. Amini does, not however, disclose 'storing the node ID information identifying the second node device on a storage device located on a first node device of the multi-node computer system; and retrieving from a storage device of the second node device, the node ID information identifying a third node device.'"

In response to Applicants' argument, at the outset, it is noted that Applicants acknowledge that in Amini, "[w]hen the CPU runs the configuration software it must access and read or write to the configuration space of each device or bridge to configure the system and create the address map." As acknowledged by Applicants, the CPU can perform configuration operation to the configuration space of each peripheral device or bridge. In fact, in Amini, as best illustrated in Fig. 2A, which is reproduced below:

FIG. 2A

the PCI bridge 80, shown above, has two 32-bit configuration address register

150 and configuration data (not shown) for configuration purpose. The configuration

process (also known as initialization, start-up), as well-defined in the art, and

particularly disclosed in Amini, particularly Fig. 1 A and description thereof (see also

column 1, line 58 to column 2, line 16).

FIG. 1A

During configuration, the CPU of node 12 will access to a configuration software stored

in the memory of node 12 to obtain ID, addresses, and locations of all peripheral

devices or nodes including all bridges connected to node 12. If a particular device or

node is a PCI bridge (PCI bridge 80 above, for example), the CPU will determine the

node ID of the bridge 80 and store the ID in the configuration software stored in the

memory of node 12. In case the CPU wants to run configuration for other peripheral

devices or nodes, the CPU will retrieve the node ID of another node; wherein the node

ID of the another node is stored in the configuration register of the bridge node 80.

Thus, it is clear that if one considers the so called "first node" as the node 12, the

"second node" as bridge 80, and the "third node" as any peripheral device connected to

bridge 80, then it is also clear that in Amini, the first node is connected to the second
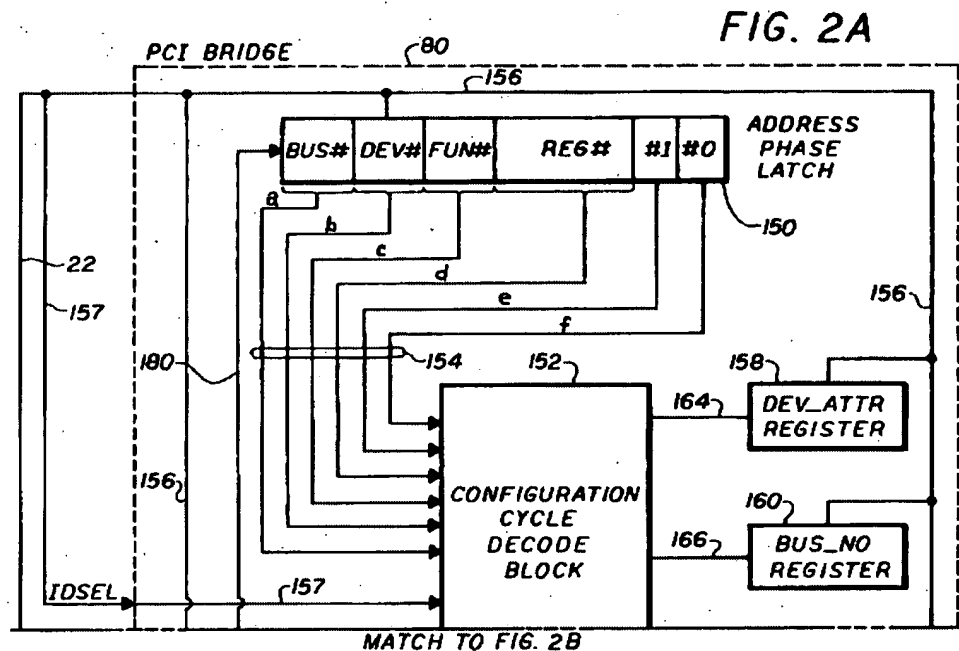
node, and the third node is connected to the second node, and the second node includes node ID identifying the third node.
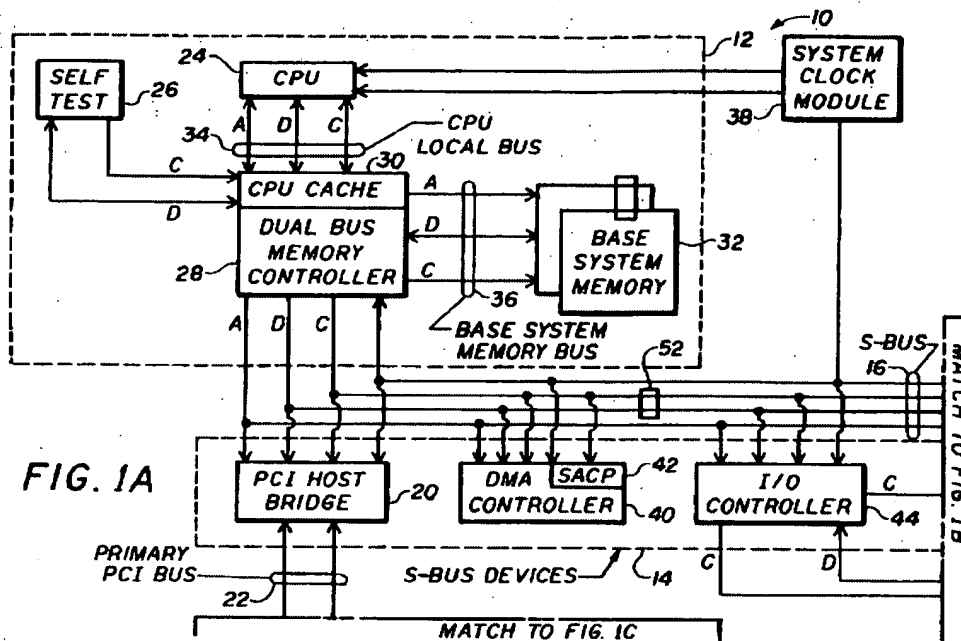
The 103 Rejection:

With regard to claim 27, Applicants argue that "Wang is cited as teaching a 'a multi processor system.., a CPU interface unit for supporting multiple CPUs...a flow control unit for control of the data flow between scalable nodes and bridges... [and] bridges for connecting peripheral devices/nodes...' Whether or not Wang discloses the limitations cited by the Office action, it does not teach or suggest 'storing the node ID information identifying the second node device on a storage device located on a first node device of the multi-node computer system; and retrieving from a storage device of the second node device, the node ID information identifying a third node device.'"

In response to Applicants' argument, In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, as discussed above, in Amini, the CPU can perform configuration operation to the configuration space of each peripheral device <u>or</u> bridge. In fact, in Amini, as best illustrated in Fig. 2A, which is reproduced below:

FIG. 2A

MATCH TO FIG. 2B

the PCI bridge 80, shown above, has two 32-bit configuration address register

150 and configuration data (not shown) for configuration purpose. The configuration

process (also known as initialization, start-up), as well-defined in the art, and

particularly disclosed in Amini, particularly Fig. 1 A and description thereof (see also

column 1, line 58 to column 2, line 16).

FIG. 1A

During configuration, the CPU of node 12 will access to a configuration software

stored in the memory of node 12 to obtain ID, addresses, and locations of all peripheral

devices or nodes including all bridges connected to node 12. If a particular device or

node is a PCI bridge (PCI bridge 80 above, for example), the CPU will determine the

node ID of the bridge 80 and store the ID in the configuration software stored in the

memory of node 12. In case the CPU wants to run configuration for other peripheral

devices or nodes, the CPU will retrieve the node ID of another node; wherein the node

ID of the another node is stored in the configuration register of the bridge node 80.

Thus, it is clear that if one considers the so called "first node" as the node 12, the

"second node" as bridge 80, and the "third node" as any peripheral device connected to

bridge 80, then it is also clear that in Amini, the first node is connected to the second

node, and the third node is connected to the second node, and the second node

includes node ID identifying the third node.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Khanh Dang whose telephone number is 571-272-3626.

The examiner can normally be reached on Monday-Friday from 9:AM to 5:PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Rinehart, can be reached on 571-272-3632. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Khanh Dang
Primary Examiner